

4.3.5.4 Evolutionary Light Water Reactor Alternative

The environmental impacts described in the following sections are based on the analysis of the evolutionary LWR facility for the Evolutionary LWR Alternative as described in Section 2.4.5.4. This alternative would require the operation of two to four LWRs, which could be located at the same or different sites. The representative sites used for this facility are: Hanford, NTS, INEL, Pantex, ORR, and SRS. Multiple reactors could be located at a site, or multiple sites could have one reactor. If there are multiple reactors at a site than the total reactor impacts would be approximately the impacts in Section 4.3.5.4.1 through 4.3.5.4.10 times the number of reactors at the site (for example, land use or direct workers).

4.3.5.4.1 Land Resources

This section describes the impacts of constructing and operating the evolutionary LWR. The evolutionary LWR could be constructed in either a large or small reactor option. During construction, 284 ha (700 acres) of land would be disturbed for a two-unit large or small evolutionary LWR. A one-unit large or small evolutionary LWR would disturb 142 ha (350 acres) of land during construction. Total land area requirements during operation for the large or small two-unit evolutionary LWR would be 138 ha (340 acres). Increasing the facility to four units (small reactor option) would increase the operation land area requirement to 227 ha (560 acres). Buffer zones would be established in accordance with applicable NRC regulations. Land-use impacts would be similar for the two-unit large or small reactor options, however, visual impacts for the two-unit large reactor option could be greater because the increased magnitude and extent of site development. Land resources impacts from the four-unit facility would be anticipated to be greater than either of the two-unit options.

Construction and operation of the evolutionary LWR would not cause indirect land-use impacts at the analysis sites. As discussed in Section 4.3.5.4.8, in-migration of workers would be required during both the construction and operational phases. Historic housing construction rates indicate there would be sufficient housing units available to accommodate in-migrating population at each site. Therefore, offsite land use would not be affected.

Hanford Site

Land Use. Vacant land adjacent to the site of the 65-percent complete WNP-1 reactor and the operating WNP-2 reactor on the WPPSS lease would be the potential location for the evolutionary LWR. Operation of the facility would be consistent with existing and proposed land uses pursuant to the current *Hanford Site Development Plan*, which designates this area for reactor operations (HF DOE 1993c:13,14). Therefore, direct impacts to land use would not occur.

The alternative would not affect other Hanford or offsite land uses. No prime farmlands exist onsite. Construction and operation would be consistent with State and local (Benton, Franklin, and Grant Counties and the City of Richland) land-use plans, policies, and controls since Hanford provides information to these jurisdictions for use in their efforts to comply with GMA (HF DOE 1993c:17).

Visual Resources. [Text deleted.] Construction and operation of the evolutionary LWR would be compatible with the industrial landscape character and VRM Class 5 designation of the existing WNP reactor area. A potential visual impact during operations would be from the additional stack plumes. However, due to the existing reactor activities, the visual impact would not occur.

Nevada Test Site

Land Use. A potential location for the evolutionary LWR would be on undeveloped land in Area 6 adjacent to the DAF. Construction and operation of the facility in Area 6 would not be in conformance with the current *Nevada Test Site Development Plan*, which designates the southeast area of NTS as a nonnuclear test area.

However, Area 6 is a potential site for long-term storage and disposition of weapons-usable fissile materials as part of the NTS defense program material disposition activities considered under the Expanded Use Alternative (part of the Preferred Alternative) of the NTS EIS (NT DOE 1996c:3-8, 3-9; NT DOE 1996e:4-18). [Text deleted.]

Construction and operation would not affect other NTS or offsite land uses. No prime farmlands exist onsite. The alternative would not be in conflict with land-use plans, policies, and controls of adjacent jurisdictions since none of the counties or municipalities currently undertakes land-use planning.

Visual Resources. [Text deleted.] Construction and operation of the facility would be compatible with the industrial landscape character of the adjacent DAF and the current VRM Class 5 designation of Area 6. [Text deleted.] Views of the proposed action would be blocked from sensitive viewpoints accessible to the public by mountains terrain.

Idaho National Engineering Laboratory

Land Use. The proposed evolutionary LWR would be located on undeveloped land northwest of the Power Burst Facility (PBF) in the central core area/Prime Development Land Zone of INEL (IN DOE 1992g:12). This zone designation applies to land most suitable for development due to an absence of physical constraints and because of the land's proximity to site infrastructure. [Text deleted.]

Construction would not affect other INEL or offsite land uses. No prime farmlands exist onsite. Construction and operation would not be in conflict with the land-use plans, policies, and controls of adjacent counties and the city of Idaho Falls since they do not address the potential site.

Visual Resources. [Text deleted.] Construction and operations, including the additional stack plumes, would be compatible with the existing visual character of the Prime Development Land Zone. The proposal would be consistent with the existing VRM Class 5 classification.

Pantex Plant

Land Use. The evolutionary LWR would be located on land in agricultural use in the northwest portion of Pantex, west of the Burning Ground and Zone 5. Construction of the evolutionary LWR would change current agricultural land use. A service agreement allows Texas Tech University to use any DOE land for agricultural use if it is not being used for defense purposes. The DOE-owned acreage used for agricultural purposes is variable and subject to periodic changes; therefore, no impact would be anticipated (PX DOE 1995i:2-5). The master plan of the current *Pantex Site Development Plan* designates this area for tritium production (PX DOE 1995g:16). Tritium production is no longer an option at Pantex. However, Pantex could revise the site development plan should Pantex be selected for this alternative.

Construction would not affect other Pantex or offsite land uses. There would be no impacts to prime farmland. The alternative would not be in conflict with City of Amarillo land-use plans, policies, and controls since they do not address Pantex.

Visual Resources. Construction and operation could cause potential impacts, including additional stack plumes. The current VRM Class 4 designation of proposed site would change to Class 5.

Oak Ridge Reservation

Land Use. [Text deleted] The evolutionary LWR is proposed to be located on undeveloped land south of Bear Creek Road along the Clinch River. The potential site is not within the ORR boundary, but it is owned by the TVA. An agreement between DOE and TVA has reserved the site for a nuclear application and it is anticipated

that the land area would be transferred from TVA to DOE. Nonetheless, the future land-use plan of the current *ORR Site Development and Facilities Utilization Plan* designates the site as a major waste management area (OR DOE 1991f:1-7). The site development plan could be revised in accordance with the proposal. The proposed action would be in compliance if this change is approved. However, ownership of the potential site could be a potential impact.

Construction would not affect other ORR land uses. No prime farmlands exist onsite. The evolutionary LWR would not be in conflict with the City of Oak Ridge land-use plans, policies, and controls since the *Oak Ridge Area Land Use Plan* designates the potential site for Industrial and Public land use. Offsite land use would not be affected.

Visual Resources. [Text deleted.] Construction and operation activities would change the current VRM classification of the potential site from Class 3 to Class 5. Visual impacts would occur to Watts Bar Lake, Clinch River, and low density residential development on the opposite side of the Clinch River. Additionally, stack plumes could be visible from I-40, a public roadway with a high sensitivity level. Visual impact would not occur to Clark Center Recreational Park and other public/quasi-public lands (cemeteries and water treatment facilities), forest management area, Melton Hill Lake, and Clinch River Bluffs because of viewing distance, hilly terrain, and forested areas.

Savannah River Site

Land Use. The evolutionary LWR would be located northeast of the N-Area on land presently forested/undeveloped. Facility construction would be in conformance with existing and future land use as designated by the current *Savannah River Site Development Plan*. According to the plan, the future land-use category for the proposed site is primary industrial mission (SR DOE 1994d:11,12). [Text deleted.]

Construction would not affect other SRS or offsite land uses. There is no prime farmland on SRS. Construction would not be in conflict with the land-use plans, policies, and controls of adjacent counties and cities since they do not address SRS.

Visual Resources. Potential impacts to visual resources including additional stack plumes would be anticipated. The current VRM Class 4 designation of the proposed site would change to Class 5. However, views from State Highway 125 and U.S. Highway 278 would be blocked by heavy vegetation, forested cover, and hilly terrain.

[Text deleted.]